

PROJECT STATEMENT

STATE: DELAWARE

GRANT: W36R-12

GRANT TITLE: WILDIFE INVESTIGATIONS – SURVEYS

JOB SCHEDULE: OCTOBER 1, 2010 – SEPTEMBER 30, 2011



STATE: Delaware

GRANT NUMBER AND TITLE:

W 36R - Wildlife Investigation - Surveys

OBJECTIVE:

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

JOB NUMBER AND TITLE:

Job 1. Hunter Success Evaluation Survey

JOB OBJECTIVE:

To determine hunter activities and hunter take of big game, upland game and waterfowl in Delaware.

ACTIVITY:

License Exempt Identification Number

Most hunters in Delaware have to purchase a hunting license before heading afield but there are some individuals that are exempt from purchasing a license (see below). Since these individuals do not purchase a license, the Division was unable to survey these individuals, nor did we know how many license exempt hunters there were in Delaware. As a result, beginning with the 2010/11 season, hunters that did not have to purchase a license had to obtain a free license exempt identification number (LEN).

Hunters could obtain their LEN by calling a toll free phone system (1-855-DEL-HUNT) or going online (www.dnrec.delaware.gov/delhunt). Hunters were asked to provide their name, address, and reason why they were exempt from purchasing a hunting license.

The following is a list of people that are exempt from purchasing a hunting license:

1. Landowners which own 20 or more acres and only hunt or trap on their own land
2. Residents, 65 years of age or older
3. Youth under the age of 13
4. Disabled military veterans
5. Honorably discharged military veterans

Annual Hunter Mail Survey

Hunters that purchased a hunting license were combined with hunters that obtained a LEN to create an initial sampling pool of 20,270 hunters, 5,000 hunters (24.7%) were then randomly selected to receive our Annual Hunter Mail Survey which was a single mailing and mailed in June 2011 (Attachment 1).

A total of 1,165 useable returns were received for a response rate of 23.3% percent. Results from the survey forms were extrapolated based on the total number of licensed residents, licensed non-residents and LEN's distributed during the 2010/11 season. Survey data were analyzed to calculate hunter effort, hunter success by species, and hunting area utilization.

TARGET DATE:

September 30, 2011

STATUS:

On schedule

REMARKS:

License Exempt Hunter Identification Number

The 2010/11 season was the first year hunters that were exempt from purchasing a hunting license had to obtain a free License Exempt Identification Number (LEN). In this first year, 1,946 individuals obtained a LEN (Table 1). Annually, Delaware sells approximately 19,000 hunting licenses so with the addition of these "new" hunters, we can now effectively increase our survey sampling pool by 10%, and more importantly we can include individuals that we've never been able to survey before because they did not purchase a hunting license and therefore we didn't know who they were. Hunters 65 years old or older made up the largest proportion of the LEN registrants (70.2%). Interestingly, there were two hunters that were 93 years old when they hunted in Delaware last year and our youngest hunter was only 6 years old. As the hunting community gets older, the number of licensed exempt hunters obtaining this free number in future years is likely to increase. With this new system we can now effectively track and survey these individuals long after they are no longer required to purchase a license.

Annual Hunter Mail Survey

A total of 1,165 usable survey forms were returned by the 5,000 sportsmen sent surveys in June 2011 for a return rate of 23.3% percent. This applicant pool was generated from a random sample of both resident and nonresident license holders from the 2010/11 season and individuals that obtained a LEN during the same season (Table 2).

Before hunters were asked to describe their hunting effort and success, they were asked several general and demographic questions. The minimum, maximum, and median age of hunters surveyed was 10, 87, and 49, respectively. Additionally, because the Division is currently exploring the possibility of completing surveys via the internet respondents were asked if they would be able to complete this survey if it were available online. A total of 68.9% of the respondents indicated they would complete the survey via the internet. The use of online surveys will be explored further before the Division decides to change its survey methodology.

The main purpose of this survey is to determine hunter effort and harvest for game species in Delaware. Deer and turkeys must be registered within 24 hours of being harvested, which is how the Division tracks harvest rates for these species, but all of the other game species

do not have a mandatory reporting requirement and this survey provides one of the only means for estimating their harvest. Other than deer, which are the most commonly hunted game species in Delaware, Canada geese and dabbling ducks received the highest levels of hunter effort (Table 3). Hunter effort was measured as the total number of days spent afield pursuing a particular species. Regarding total harvest, dabbling ducks, mourning doves, Canada geese, and snow geese, were the top four most harvested species, respectively (Table 3). Hunter Success is evaluated as the number of species killed per day. Mourning dove and pen-raised quail were the two most abundant species in a hunter's daily bag (Table 3). Interestingly, rails were the only species that were not harvested by any respondents (Table 3).

Along with hunter harvest and effort data for game species, survey respondents were asked to provide their input on a proposal to increase the length of the rabbit season and whether they participated in the season segment that was lengthened last year. Respondents were also asked if they participated in the inaugural red fox season this past season. Regarding rabbits, hunters were asked if they participated in the season segment that was lengthened from mid-February to the end of February during the previous year and 90.4% indicated they did not. Respondents were then asked if they would support adding an early rabbit season on private land only which would run from the Monday after the October Muzzleloader deer season ends through October 31st. A total of 62.9% indicated they would support this extension; however, when asked if they would participate in this segment if it was established, only 37.1% of those supporting these season said they would participate. This suggests that only 23.4% of the total hunters support and would hunt this additional season.

The 2010/11 hunting season was the first season in which hunters could harvest red foxes statewide during the established hunting season which ran from November 1st through February 28th. Hunters indicated they harvested 3,097 red foxes (Table 3). However, the Division did not know if these animals were harvested opportunistically while hunters were pursuing other game (e.g. deer, rabbits, etc...) so hunters were asked if they specifically went hunting for foxes during the 2010/11 season. Most of the respondents, (94.5%) indicated they never hunted specifically for foxes.

RECOMMENDATIONS:

The Division will continue to explore the possibility of implementing internet based surveys. In the meantime, this survey should be continued.

PREPARED BY:

Joseph E. Rogerson,
Game Mammal Biologist

REVIEWED BY:

Rob Hossler
Program Manager – Game Species

Attachment 1. 2010/11 Delaware Hunter Mail Survey Form

State of Delaware
Division of Fish & Wildlife
6180 Hay Point Landing Rd
Smyrna, DE 19977

Recipient Name Here
Recipient Address
Recipient Address

Dear Fellow Hunter:

Congratulations, you have been selected to assist with the Division of Fish & Wildlife's annual Hunter Mail Survey. This is the only way the Division is able to track harvest and hunting pressure on many game species in Delaware. Therefore, your response is extremely important.

Instructions:

Please answer all questions as it pertains to your hunting effort in Delaware during the 2010/11 hunting season.

For Question #4: Below each animal listed write the total number of days *you* hunted each animal and the number *you* harvested during the entire season. If you hunted an animal but did not kill any, please record the number of days you hunted that species and put a zero (0) in the harvest box under that animal. If you did not hunt a particular species at all during the season please leave the column blank. If you hunted more than one game species on a particular day, count it as one day for each species hunted. Report only game taken *yourself* and do not include game taken by other members of your party. Please only include game harvested in Delaware.

Returning the Survey:

Once you have finished completing your survey, fold the form so that the "Business Reply Mail" section appears on the outside, and tape closed. There is no cost to you, as no postage is required. Please fill out and return this survey within one week of receiving it or as soon as possible. Thank you for your participation, your response is very important to us.

Recipient Name Here
Recipient Address
Recipient Address

Business Reply Information Here

DELAWARE HUNTER MAIL SURVEY – 2010/11 HUNTING SEASON

Do not remove any portion of this form. When you have completed the questionnaire, fold the form so that the "Business Reply Mail" section appears on the outside and seal. No postage required. Instructions for completing this survey can be found on the other side of this page.

1. How old are you? _____ 2. Would you be able to complete this survey if it were available online? ☐ YES ☐ NO

3. Did you hunt in Delaware during the 2010/11 hunting season? ☐ YES ☐ NO

If you did not hunt during the 2010/11 season (July 1, 2010 through June 30, 2011), you are finished with the survey. However, please return the entire survey as your information will still be included in our analyses. Thank you for your time.

4. Please indicate the number of days you hunted in Delaware during the 2010/11 season and the total number harvested for each species. Please do not include in your harvest totals any animals that were trapped. We have a separate survey for trapping.

Game Mammals

Category	Squirrel	Rabbit	Raccoon	Opossum	Groundhog	Red Fox	Gray Fox	Coyote	Deer				
									Shotgun	Muzzleloader	Handgun	Compound/Longbow	Crossbow
# of Days Hunted													
Total # Harvested													

Game Birds

Category	Dove	Woodcock	Bobwhite Quail		Pheasant		**Wild Turkey	Canada Goose	Snow Goose	Brant	Dabbling & Diving Ducks	Seaducks	Rails
			Wild Birds	Released Birds*	Wild Birds	Released Birds*							
# of Days Hunted													
Total # Harvested													

**If you are unsure whether the birds that you harvested were pen raised released birds please indicate them as wild birds.*

*** Please indicate if you hunted turkeys during the Spring 2011 Season.*

5. Please indicate the total number of days you hunted in each county during the 2010/11 hunting season:

New Castle: _____ Kent: _____ Sussex: _____

6. Please indicate which land types you hunted during the 2010/11 hunting season (check all that apply).

Private Land ☐ Public Land ☐

7. Would you support adding an early rabbit hunting season on privately owned lands beginning the Monday after the closure of the October Muzzleloader Deer Season through October 31st? ☐ YES ☐ NO

Note: The rabbit hunting season on publicly owned lands would not open until the traditional opening day which is the Monday before Thanksgiving. On both publicly and privately owned lands, the rabbit season would remain closed from November 1st until the traditional opening day.

8. If the above change were made, would you participate? ☐ YES ☐ NO

If no, please select the reason(s) below that best describe why you wouldn't participate (check all that apply)

- ___ I don't hunt rabbits
- ___ I don't have access to privately owned land where I can hunt rabbits
- ___ Conflicts with other hunting seasons that I participate in
- ___ The rabbit population is too low where I hunt
- ___ Too warm for rabbit hunting
- ___ Don't want to change the traditional opening day from the Monday before Thanksgiving
- ___ Other – please explain: _____

9. Did you hunt rabbits this season during the recently lengthened season from February 1 – 28, 2011? ☐ YES ☐ NO

10. Did you specifically go hunting for foxes during the 2010/11 hunting season? Do not consider days in which you may have harvested or attempted to harvest a fox while hunting for other species (e.g. shot a fox while deer hunting). ☐ YES ☐

Table 1. Distribution of hunters that obtained a free License Exempt Identification Number during the 2010/11 Delaware hunting season.

License Exempt Hunters	Total	Percent
Disabled military veterans	32	1.6%
Landowners w/ 20 or more acres	355	18.2%
Honorably discharged military veterans	23	1.2%
Seniors, 65 years of age or older	1,367	70.2%
Youth under the age of 13	169	8.7%
Total	1,946	

Table 2. Number of license exempt hunters and resident and nonresident hunting licenses sold in Delaware from 2000 through 2010.

License Year	Resident Hunting Licenses	Non-Resident Hunting Licenses	License Exempt Hunters¹	Total Hunters
2000	19,468	1,915	N/A	21,383
2001	18,921	1,997	N/A	20,918
2002	19,299	2,189	N/A	21,488
2003	18,088	2,017	N/A	20,105
2004	16,663	1,847	N/A	18,510
2005	16,957	2,599	N/A	19,556
2006	16,970	2,711	N/A	19,681
2007	17,013	2,877	N/A	19,890
2008	16,114	2,632	N/A	18,746
2009	16,677	2,597	N/A	19,274
2010	15,526	2,798	1,946	20,270

¹ The 2010 season was the first year hunters exempt from purchasing a license had to obtain a free license exempt identification number.

Table 3. Number of hunters, number of days hunted, total harvest, and harvest per day for all game species hunted in Delaware during the 2010/11 season.

Game Mammals

Category	Squirrel	Rabbit	Raccoon	Opossum	Red Fox	Gray Fox	Coyote	Groundhog	Deer				
									Shotgun	Muzzleloader	Handgun	Compound/Longbow	Crossbow
Number of Hunters	2227	2732	278	17	1114	244	70	887	14459	8874	2558	5237	2105
Number of Days Hunted	11431	18217	2384	17	9274	3062	348	17799	107509	44751	7047	78609	20287
Total Number Harvested	12423	18026	1792	17	3097	122	52	12249	14006	3758	313	2714	609
Harvest per Hunter per Day	1.09	0.99	0.75	1.00	0.33	0.04	0.15	0.69	0.13	0.08	0.04	0.03	0.03

Game Birds

Category	Mourning Dove	Woodcock	Bobwhite Quail		Ring-necked Pheasant		Wild Turkey	Canada Goose	Snow Goose	Brant	Dabbling & Diving Ducks	Scauds, Scoters, Eiders, etc...	Rails
			Wild Birds	Pen Raised Released Birds*	Wild Birds	Pen Raised Released Birds*							
Number of Hunters	3776	383	244	209	191	400	2958	6699	3132	313	4263	209	0
Number of Days Hunted	14493	1601	1931	1096	870	1688	11483	49013	15137	1792	37547	1079	0
Total Number Harvested	55990	644	400	3602	365	3741	1027	54633	30327	2401	70919	766	0
Harvest per Hunter per Day	3.86	0.40	0.21	3.29	0.42	2.22	0.09	1.11	2.00	1.34	1.89	0.71	#DIV/0!

Number of Hunters = The total number of hunters that pursued a particular species during the season.

Number of Days Hunted = The total number of man days that hunters pursued a particular species during the season

Total Number Harvested = The total number of a particular species harvested throughout the entire season

Harvest per Hunter per Day = The total number harvested divided by the total number of days spent hunting that species.

STATE: Delaware

GRANT NUMBER AND TITLE:

W-36-R - Wildlife Investigations – Surveys

OBJECTIVE:

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

JOB NUMBER AND TITLE:

Job 2. Trapper Success Evaluation Survey

JOB OBJECTIVE:

To determine furbearer harvest and trapper activities in order to more effectively manage this valuable resource.

ACTIVITY:

License Exempt Identification Number

Most trappers in Delaware have to purchase a trapping license before heading afield but there are some individuals that are exempt from purchasing a license (see below). Since these individuals do not purchase a license the Division was unable to survey these individuals, nor did we know how many license exempt trappers there were in Delaware. As a result, beginning with the 2010/11 season, trappers that did not have to purchase a trapping license had to obtain a free license exempt identification number (LEN).

Trappers could obtain their LEN by calling a toll free phone system (1-855-DEL-HUNT) or going online (www.dnrec.delaware.gov/delhunt). Trappers were asked to provide their name, address, and reason why they were exempt from purchasing a trapping license.

The following is a list of people that are exempt from purchasing a trapping license:

1. Landowners which own 20 or more acres and only hunt or trap on their own land
2. Residents, 65 years of age or older
3. Youth under the age of 13
4. Disabled military veterans
5. Honorably discharged military veterans

Trapper Mail Survey

A trapper survey was mailed in April 2011 to all known trappers during the 2010/11 season. A total of 369 survey forms were mailed and 235 surveys were returned for a response rate of 63.7%. However, 131 of the 235 respondents indicated that they did not trap during the

2010/11 season creating a pool of only 104 usable surveys for our analysis. No second mailing was conducted.

TARGET DATE:

September 30, 2011

STATUS:

On schedule

REMARKS:

License Exempt Trapper Identification Number

The 2010/11 season was the first year trappers that were exempt from purchasing a trapping license had to obtain a free License Exempt Identification Number (LEN). In this first year, 146 license exempt trappers obtained a LEN (Table 1). During the 2010/11 trapping season, 211 trappers purchased a trapping license; therefore, with the addition of the license exempt trappers we were able to increase our pool by nearly 70%, and more importantly we can include individuals that we've never been able to survey before because they did not purchase a trapping license. Trappers 65 years old or older made up the largest proportion of the LEN registrants (68.5%, Table 1). As the trapping community ages, the number of licensed exempt trappers obtaining this free number in future years is likely to increase. With this new system we can now effectively continue to track and survey these individuals long after they are no longer required to purchase a trapping license.

Trapper Mail Survey

The 2010/11 Delaware trapping survey was mailed in April 2010 to 369 Delaware trappers, 211 licensed residents, 12 licensed nonresidents, and 146 license exempt trappers (Attachment 1). This constituted a 100% sample of all known trappers in Delaware. The survey was mailed and included a cover letter explaining the purpose of the survey and how important it is to the Division's furbearer management efforts. Of the 235 responses, only 44% (104 individuals) indicated they were active trappers during the 2010/11 season. Of the trappers that returned their survey but indicated they did not trap, 31.9% indicated they didn't trap because they didn't have time and 19% indicated they didn't trap due to health reasons. The Division is entertaining the possibility of implementing web based surveys and to see if a web based trapper survey would be feasible; trappers were asked if they would be able to complete the survey online. Unfortunately, 67% of the trappers indicated they would not be able to do so.

Trappers were asked to indicate which county(s) they trapped in. A few trappers, trapped in more than one county which is why there were more responses (n=113) to this question than respondents to the survey (n=104). Of the 113 responses, 64 (56.6%) trapped in Kent County. Regarding harvest, more muskrats (16,605) are harvested annually than all other furbearer species combined (3,112, Table 2). The harvest of gray fox, coyotes, skunks, otter, weasel, mink, and nutria were all fewer than 50 animals (Table 2). However, the 2010/11 season

was the first season in which trappers reported harvesting coyotes in Delaware, including a 35 pound male caught on Judith Rd by a gentleman trapping red foxes in western Kent County.

Trappers were also provided with a list of trap types and were asked to indicate what trap types they used and for each type which species they primarily targeted. Body gripping traps were the style most commonly used by trappers, with 73.5% of the trappers indicating they used these traps (Table 3.)

RECOMMENDATIONS:

This job should be continued as it is the only survey that measures furbearer harvest associated with trapping. The Division will continue to explore the possibility of implementing internet based surveys; however with only 33% of the respondents indicating they would be able to participate in an internet survey, this option for the trapper survey may not be feasible.

PREPARED BY:

Joseph E. Rogerson
Game Mammal Biologist

REVIEWED BY:

Rob Hossler
Program Manager – Game Species

Delaware Trapper Mail Survey
2010/11 Trapping Season

Dear *Trapper's name here*,
Trapping License #: *License number here*

Enclosed you will find the annual 2010/11 Delaware Trapper Mail Survey. To better manage furbearers in Delaware, the Division of Fish & Wildlife is soliciting information related to the number of animals you caught and the average number of traps you set to capture those animals during the 2010/11 trapping season. You're response and feedback is extremely important and will be used for no other purpose than to better manage furbearers in Delaware. Responses from individuals will not be made public, only the combined information from all of the respondents will be used in data analysis. **Please return this survey even if you did not trap during the 2010/11 season as your reply will still be used in our analyses.**

In the past few years the reporting rate for this survey has decreased drastically. Unlike the hunter surveys we complete in which we have an applicant pool of nearly 19,000 hunters there are fewer than 250 licensed trappers in Delaware. Therefore, it is extremely important that you return your completed survey so that we have enough responses to conduct our analyses. The feedback from this survey will better assist the Division in making the best management decisions related to trapping possible. Thank you for your time and **please mail your completed survey in the self-addressed and postage paid envelope within one week or as soon as possible upon receiving it.**

Sincerely,

Joe Rogerson
Game Mammal Biologist
Delaware Division of Fish & Wildlife

Delaware Trapper Mail Survey
2010/11 Trapping Season

Please return this survey within one week of you receiving it or ASAP.

1. Would you be able to complete this survey if it were available on the internet? (circle one)

YES NO

2. Did you trap in Delaware during the 2010/11 trapping season? (circle one) YES NO
If yes, skip down to question #3 below.

If no, please select reason below that best describes why you didn't trap (check one).

_____ Didn't have time (e.g. work, family, or other obligations took precedent)

_____ Health issues

_____ Fur prices too low

_____ Trapping regulations are too restrictive

_____ Didn't have a place to trap

_____ Not enough animals to trap

_____ Poor weather

_____ I do not trap

_____ Other (please describe) - _____

Thank you for your time, you are now completed with the survey and may now return it.

**Follow-up questions to be completed by those individuals that
trapped during the 2010/11 season in Delaware**

3. In which Delaware County did you do most of your trapping? (check one)
New Castle _____ Kent _____ Sussex _____
4. Approximately how many of each species did you trap in Delaware? Do not include those animals that you may have harvested while hunting or that you trapped and released alive. Only include those that you trapped and harvested. If you did not set a trap for a particular species than leave the cell(s) blank.

	<i>Example</i>	Raccoon	Red Fox	Gray Fox	Coyote	Opossum	Skunk	Muskrat	Otter	Weasel	Mink	Beaver	Nutria
Total Number Harvested	12												
Number of Days Trapped	14												
Average Number of Traps Set Each Day	6												

Additional Questions on Back →

5. Please indicate which type of traps you set last year and which species you targeted with those traps.

Trap Type	Used (circle one)		Species Targeted
Body Gripping (ex. Conibear)	YES	NO	_____
Leghold (staked or on a drag)	YES	NO	_____
Leghold (utilizing a drowning set)	YES	NO	_____
Snare or cable restraint	YES	NO	_____
Box/Cage Trap	YES	NO	_____

6. Did you see any coyotes or any coyote sign in your trapping area this season? (check one)

Yes ___ No ___ How many _____ Where _____

Example: Big Buck Rd, Smyrna, DE

Please answer the following questions if you trapped in wetlands, marshes, ponds, streams, ditches, and/or rivers. **If you did not trap in any of these areas please skip down to Question #10.**

7. Were otter present in your trapping area? (check one)

YES _____ NO _____ DON'T KNOW _____

8. Were otter as common on your area this year as last year? (check one)

YES _____ NO _____ DON'T KNOW _____ DIDN'T TRAP LAST YEAR _____

9. Did you see any nutria or any nutria sign in your trapping area this season? (check one)

Yes ___ No ___ How many _____ Where _____

Example: Big Buck Rd, Smyrna, DE

10. If you have any comments or suggestions that you would like to make to the Division please do so in the space below.

Thank you very much for your time and participation, you have now completed this survey and may return it. Your response to this survey is greatly appreciated.

Table 1. Distribution of trappers that obtained a free License Exempt Trapper Identification Number during the 2010/11 Delaware hunting season.

License Exempt Trappers	Total	Percent
Disabled Military Veterans	6	4.1%
Honorably discharged military veterans	1	0.7%
Landowners w/ 20 or more acres	25	17.1%
Seniors, 65 years of age or older	100	68.5%
Youth under the age of 13	14	9.6%
Total	146	

Table 2. Number of trappers, total harvest, and trapping effort for all furbearer species trapped in Delaware during the 2010/11 season.

Category	Raccoon	Red Fox	Gray Fox	Coyote	Opossum	Skunk	Muskrat	Otter	Weasel	Mink	Beaver	Nutria
Number of Trappers	119	74	19	0	49	8	97	14	0	2	36	2
Number Harvested	906	1660	42	2	174	38	16905	30	0	8	251	2
Number of Days	1229	1953	642	0	642	135	2716	301	0	79	429	2
Number of Traps Set Each Day	2296	824	159	0	250	111	4654	77	0	58	232	2
Total Number of Traps Set	1797495	1025506	64864	0	102113	9588	8051611	14773	0	2905	63443	2
Harvest/Total Number of Traps Set	0.0008	0.0025	0.0010	N/A	0.0027	0.0062	0.0033	0.0032	N/A	0.0042	0.0062	1.5702

Table 3. Types of traps and sets used by trappers in Delaware during the 2010/11 trapping season and the species they targeted with each trap type.

Trap Types	Used	Did Not Use	Percent that Used	Primary Species Targeted
Body Gripping	75	27	73.5%	Muskrat
Leghold (staked or on a drag)	61	42	59.2%	Red fox and raccoon
Leghold (utilizing a drowning set)	37	65	36.3%	Wide variety
Snare or cable restraint	43	60	41.7%	Red fox
Box/Cage Trap	54	49	52.4%	Raccoon

STATE: Delaware

GRANT NUMBER AND TITLE:

W 36R - Wildlife Investigations: Surveys

OBJECTIVE:

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

JOB NUMBER AND TITLE:

Job 3. Snow Goose Conservation Order Reporting Survey

JOB OBJECTIVE:

To satisfy the U.S. Fish and Wildlife Service's reporting requirements for state participation in a Snow Goose Conservation Order (CO).

ACTIVITY:

The Delaware Division of Fish and Wildlife authorized a Conservation Order for light geese that occurred 1 February to 16 April 2011. Online registration was required for any hunter interested in participating in the CO in order to collect and report participation and success data to USFWS.

TARGET DATE:

September 30, 2011

STATUS:

On schedule

REMARKS:

The spring 2011 Snow Goose Conservation Order ran from 1 February to 16 April 2011. Registration was required for any hunter interested in participating in the CO. Registrants were advised to record their daily activity and success while participating in the CO and were provided with a permit number they must carry on their person as they would their hunting license. At the end of the conservation order, registrants were asked to revisit the website report their success/activity information. The types of information collected included the number of days each individual participated in the CO, the number of individuals utilizing expanded take

options, and the number of snow geese killed or crippled by each participant using expanded take options (Attachment 1).

A total of 963 permits were issued, a 5.4% decrease from the 2010 CO. However, only 622 registrants, a 65% response rate, provided activity/success information, despite a reminder notice that was mailed out to all participants. This response rate was higher than the 58% response rate during the 2010 CO. Of the 622 hunters that submitted data to the registration system, only 461 individuals (74%) actually hunted during the CO, an increase in the percent hunting when compared to the 63% in the 2010 CO. An estimated 8,901 snow geese were harvested during an estimated 2312 hunter days (3.85 geese/hunter day). This estimated harvest was only 54% of the 2010 CO harvest of 16,144 geese; with a corresponding success rate (geese/hunter day) 47% lower than in 2010. Expanding harvest methods were met with differing utilization rates. Fifty-four percent of hunters reported using unplugged guns and harvested an estimated 1426 geese with the extra shells afforded by this measure. Electronic calls were used by 61% of hunters during the CO and assisted with the harvest of an estimated 4,960 geese. An estimated 922 snow geese were harvested during the extended shooting period from sunset and ½ hour after sunset but only 35% of hunters reported hunting during this time period. The utilization rates of these expanded harvest methods in 2011 were similar to those used in 2010, except the use of electronic calls increased from 45% to 61%. This increase in electronic call use contributed to a corresponding increase in the percentage of the harvest that was assisted by this method, where the percentage of harvest attributed to the use of electronic calls increased from 20.8% in 2010 to 55.7% in 2011. The 2012 Snow Goose Conservation Order will run from 1 February to 14 April 2012.

RECOMMENDATIONS:

This job should be continued. Efforts should be made to increase response rate.

PREPARED BY:

Matthew T. DiBona
Game Bird Biologist

REVIEWED BY:

Rob Hossler
Program Manager – Game Species

ATTACHMENT 1 - 2011 Snow Goose Conservation Order Reporting Form

Please use this form to keep a daily record of your hunting activity under the Conservation Order. For each day you hunt geese please record the date, the county where you were hunting, and the number of geese you harvested (*even if you harvested zero geese*!). When reporting harvested geese please separate your harvest into the total number of geese you shot and retrieved and as well as any geese you shot but were unable to retrieve. In addition to the total harvest, please indicate if any of the geese you killed were harvested using 1) the extra shells allowed in unplugged shotguns, 2) electronic calls, and/or 3) during the extended shooting hours from sunset to 1/2 hour after sunset. At the bottom of the form, please tally your harvest activities for each column. Please visit the Conservation Order website www.dehip.com and submit your results by May 31, 2011 (Note: additional sheets are available by visiting the website). *Even if you did not harvest any geese you must report this on the website*. **Failure to report your information may make you ineligible to participate in the 2012 spring season!**

Date		County	# of Geese Shot and Retrieved				# of Geese Downed and NOT Retrieved					
			Total	Using 4 th , 5 th , or 6 th Shell	Using an Electronic Call	After Sunset	Total	Using 4 th , 5 th , or 6 th Shell	Using an Electronic Call	After Sunset		
Ex. 3/12/2009		Kent	0				1		1	1		
Ex. 4/11/2009		Sussex	25	5		4	1			1		
Total each column here:	BOX 1		Total Harvest:	BOX 2	BOX 3	BOX 4	BOX 5	Total Harvest:	BOX 6	BOX 7	BOX 8	BOX 9

POST-SEASON SUMMARY

Please tell us the total # of days you hunted and the total # of geese shot and retrieved in each county:

New Castle: ___ days / ___ killed Kent: ___ days / ___ killed Sussex: ___ days/ ___ killed

STATE: Delaware

GRANT NUMBER AND TITLE:

W 36R - Wildlife Investigations: Surveys

OBJECTIVE:

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

JOB NUMBER AND TITLE:

Job 4. Species Specific Harvest Surveys

JOB OBJECTIVE:

To collect population and harvest information related to specific game species (deer, turkey, waterfowl, migratory gamebirds, upland game and furbearers) and information on hunter attitudes related to game species management.

ACTIVITY:

No surveys of this type were completed this past year

TARGET DATE:

September 30, 2011

STATUS:

On schedule

REMARKS:

None

RECOMMENDATIONS:

This job should be continued and surveys will be conducted on an as needed basis.

PREPARED BY:

Joseph E. Rogerson, Game Mammal Biologist
Matthew T. DiBona, Game Bird Biologist

STATE: Delaware

GRANT NUMBER AND TITLE:

W 36R - Wildlife Investigations: Surveys

OBJECTIVE:

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

JOB NUMBER AND TITLE:

Job 5. Northern Bobwhite Quail Population Surveys

JOB OBJECTIVE:

To develop a baseline population index of Northern bobwhite in selected quail focus areas using whistling male call counts.

ACTIVITY:

Northern bobwhite whistling male call surveys were conducted at three quail focus areas during June and July 2011.

TARGET DATE:

September 30, 2011

STATUS:

On schedule

REMARKS:

The Division delineated three quail focus areas in which it will target habitat conservation and quail population restoration efforts. To assist with development of these focus areas and to determine baseline population conditions within each area, whistling male surveys were conducted in June and July 2011. A total of 11 routes were established, with each route consisting of 17-23 observation points. A total of 59 points were created in the Northern Focus Area, 80 points in the Central Focus Area, and 80 points in the Southern Focus Area (total = 219; Figure 1). At each point, the observer passively listened for whistling males for four minutes. If a bird was detected, the time of detection, method of detection (heard vs. seen), estimated distance to bird, and detection angle relative to observation point were recorded. Each survey route was run three times in June and July.

Northern bobwhite were detected at 22 of 219 (10%) observation points (Figure 1). Bobwhite were detected at 30% of the points in the Southern focus area, 24% of the points in the Northern Focus Area and only 8% of the points in the Central Focus Area. Survey results will be used with other data in finalizing the locations and boundaries of these focus areas as well as prioritizing habitat conservation efforts within the focus areas. Surveys should be continued once focus areas have been established to determine if quail populations are responding to habitat conservation activities within the focus areas.

RECOMMENDATIONS:

This job should be continued.

PREPARED BY:

Matthew T. DiBona
Game Bird Biologist

REVIEWED BY:

Rob Hossler
Program Manager – Game Species

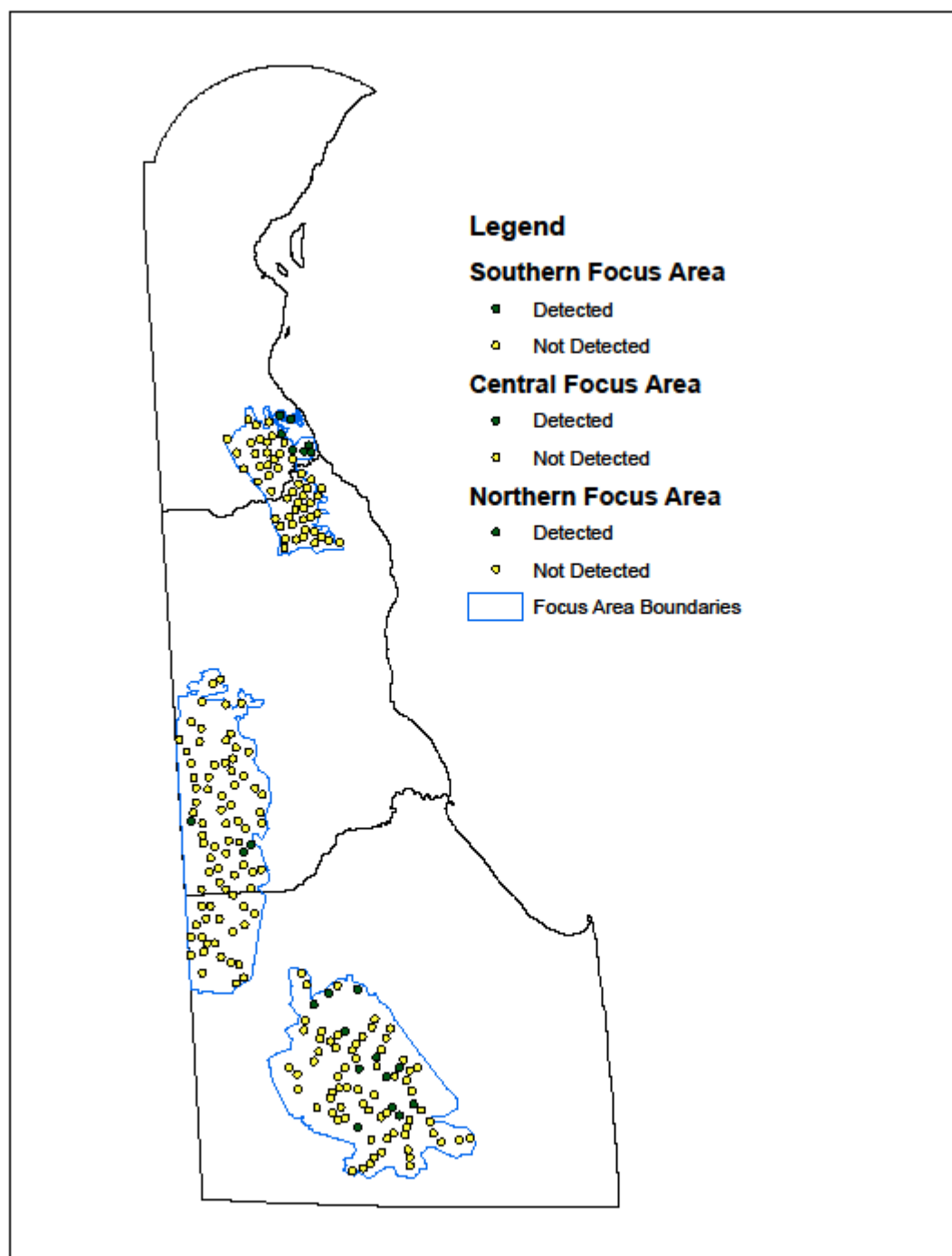


Figure 1. Northern bobwhite detections recorded during whistling male surveys conducted in June and July 2011, Delaware, USA.